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The Effect of Teacher Confirmation on Student Communication and Learning Outcomes

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A live lecture experiment was conducted where teacher confirmation was manipulated (i.e., not confirming, somewhat confirming, confirming) across three college courses. After the lecture, students completed a post test assessing positive (i.e., student communication motives, student participation) and negative (i.e., challenge behaviors) communication behaviors they might engage in while taking a course with this instructor. Additionally, students reported on traditional learning outcomes (i.e., cognitive learning, affective learning, state motivation, student satisfaction) resulting from the lecture manipulation. Collectively, results indicated that teacher confirmation resulted in (a) more student communication for the relational, functional, and participatory motives and less communication for the excuse-making motive, (b) more student participation, (c) less challenge behavior, and (d) greater cognitive learning, affective learning, state motivation, and satisfaction.

Keywords: Teacher Confirmation; Student Motives to Communicate; Class Participation; Challenge Behavior; Affective Learning

College instructors have the opportunity to make a significant impact on students' lives. Arguably, the main goal of instructors should be to foster learning, although some critics of education argue that this goal is frequently overlooked (Sykes, 1995). While student learning is an imperative outcome in the classroom, instructional communication researchers have also focused on affective outcomes. Effective

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teaching involves engaging in positive instructor behaviors (e.g., clarity, immediacy, and humor) that increase both student learning and affect (Kramer & Pier, 1999; Nussbaum, 1992). One effective teaching behavior that impacts learning and affect is teacher confirmation. The purpose of this study is to extend teacher confirmation research by examining student communication behaviors resulting from confirming teacher behaviors through an experimental investigation. Specifically, this study examined the effect of teacher confirmation on student motives to communicate with instructors, student class participation, student challenge behaviors, and student learning outcomes (i.e., affective learning, cognitive learning, state motivation, and student satisfaction) in the classroom.

Teacher confirmation is the process through which instructors communicate to students that they are recognized and acknowledged as valuable and significant individuals (Ellis, 2000). Although the study of confirmation is rooted in the interpersonal communication context (Laing, 1961; Watzlawick, Beavin, & Jackson, 1967), instructional scholars are beginning to assess the value of confirmation in the instructional communication context (Ellis, 2000, 2004). Laing (1961) explained that confirmation is a process through which individuals are endorsed and will "vary in intensity and extensity, quality and quantity" (p. 99). Confirmation (a) expresses recognition of an individual's existence, (b) acknowledges a relationship of affiliation with another individual, (c) expresses awareness of the significance or worth of another individual, and (d) endorses another individual's self-experience (Cissna & Sieburg, 1981, 2006; Sieburg, 1985).

Confirmation messages typically are grouped in three ways: recognition, acknowledgement, and endorsement (Sieburg, 1985). *Recognition* of an individual is expressed through immediate behaviors such as eye contact and touching while also including conversational opportunities to respond. *Acknowledgement* of an individual involves communicating in a direct and relevant manner, although not necessarily agreeing with another individual's viewpoint or opinion. *Endorsement* of an individual refers to any response that expresses acceptance of the individual's feelings as being true and accurate.

However, researchers have noted certain behaviors that are contrary to the notion of confirmation. Disconfirmation refers to a variety of behaviors that negatively impact self-experience and feelings of worth in three fundamental ways: indifference, imperviousness, and disqualification (Cissna & Sieburg, 1981). *Indifference* toward an individual involves denying an individual's presence (e.g., silence), avoiding involvement (e.g., nonimmediacy), and rejecting communication (e.g., interruptions). *Imperviousness* toward an individual refers to denying an individual's self-experience by trying to discredit feelings and expressions (e.g., "you're wrong, I know you better than that"). *Disqualification* toward an individual involves denying another individual's significance by disqualifying either the speaker (e.g., "you always mess things up") or the message (e.g., being ambiguous on purpose).

Confirmation research has focused on three communication contexts: interpersonal, family, and instructional. In the interpersonal communication context, marital partners' use of facilitative communication (i.e., empathy, respect, and genuineness)

is related positively to perceived confirmation (Cissna & Keating, 1979). Confirmation also is important for maintaining marital satisfaction. Weger (2005) discovered that withdrawal patterns from marital conflict are considered disconfirming and are associated inversely with marital satisfaction.

In the family communication context (i.e., parent–child relationships), confirming communication is associated with positive communication behaviors and perceptions in children. Adolescents engage in more open communication with parents when they feel confirmed (Dailey, 2006). Furthermore, Ellis (2002) discovered that parental confirmation is a positive predictor of children's self-worth, intellectual ability, and self-perceived attractiveness. Similarly, Schrodt, Ledbetter, and Ohrt (2007) revealed that parental confirmation is related positively to a family's conversational orientation and children's self-esteem, whereas parental confirmation is related negatively to children's perceived stress and symptoms of poor mental health.

In the instructional communication context, Ellis (2000) argued that student perceptions of teacher confirmation should be measured across three dimensions via the Teacher Confirmation Scale (TCS). The TCS is 16 items and measures three teacher confirmation behaviors: (a) responding to student questions/comments (e.g., takes time to answer students' questions fully, listens attentively when students ask questions or make comments during class), (b) demonstrating interest in the student learning process (e.g., communicates that they are interested in whether students are learning, communicate that they believe students can do well in the class), and (c) teaching style (e.g., uses an interactive teaching style, uses a variety of techniques to help students understand the course material). Although the TCS was initially 27 items including a fourth dimension of confirmation (i.e., absence of disconfirmation), Ellis (2000) deleted this dimension because it failed to cross-validate in separate samples.

To establish concurrent validity, Ellis (2000) found strong positive correlations between the TCS and perceived caring and immediacy. She also discovered that perceived teacher confirmation was related positively to students' affective and cognitive learning. Ellis (2004) then validated the TCS by exploring whether students' feelings of confirmation were a function of teacher confirmation behaviors. She found that the TCS was correlated positively with a previous measure of confirmation, indicating an isomorphic relationship. She discovered a negative relationship between perceived teacher confirmation and student receiver apprehension and positive relationships between perceived teacher confirmation and students' perceived cognitive learning, affective learning, and state motivation. However, these relationships were mediated by student receiver apprehension. Teacher confirmation reduced student receiver apprehension, which led to increases in perceived student learning and motivation.

Subsequent research (Schrodt, Turman, & Soliz, 2006; Turman & Schrodt, 2006) explored further the impact of perceived teacher confirmation on teacher perceptions and student outcomes. Schrodt et al. (2006) revealed that teacher confirmation had an indirect effect on student perceptions of instructor behavior. Perceived teacher

confirmation increased students' perceived understanding from an instructor, which consequently increased student evaluations and perceptions of instructor credibility positively. Turman and Schrodt (2006) explored the relationship between perceived teacher confirmation and perceptions of instructor power, finding that perceived teacher confirmation was related positively to an instructor's perceived use of expert, reward, and referent power. Additionally, perceived teacher confirmation was related negatively to perceptions of instructor coercive power use but unrelated to the use of legitimate power.

Rationale for the Study

The study of teacher confirmation is vital to student communication and learning outcomes for three reasons. First, confirming messages promote active student learning in the classroom (Ellis, 2000, 2004). Second, perceptions of teacher confirmation may establish a supportive classroom climate by communicating instructor interest to students. As Rosenfeld and Jarrard (1985) noted, the climate of a classroom is important because it affects student personal growth, whereas student affect and learning are created by confirming responses from instructors. Third, teacher confirmation messages signify caring or a wanting to know the students. Teven and Gorham (1998) revealed that students perceive instructor behaviors as caring when instructors (a) demonstrate concern for performance and grades, (b) solicit responses to student questions and feedback, and (c) attempt to communicate in a positive manner. Similarly, these behaviors are representative of the three dimensions of teacher confirmation (i.e., responding to questions, demonstrating interest, and teaching style). Based on these reasons, this study aimed to establish that teacher confirmation should lead to increases in positive student communication behavior and decreases in negative student behavior. Additionally, teacher confirmation should lead to differences in traditional learning outcomes. To understand this rationale, it is necessary to consider previous research. Two positive student communication behaviors examined in this study were student motives to communicate with their instructors (Martin, Myers, & Mottet, 1999) and student class participation (Fassinger, 1995a, 1995b).

Student Motives to Communicate with their Instructors

Based on the research of Rubin, Perse, and Barbato (1988), Martin, Myers, and Mottet (1999) identified five student motives for communicating with their instructors. These motives are relational, functional, participatory, excuse-making, and sycophancy. The *relational* motive refers to students' attempts to develop a personal relationship with their instructor. The *functional* motive involves acquiring information about the course or content. The *participatory* motive involves communicating in class because instructors may require participation and assign grades based on student participation. The *excuse-making* motive refers to

rationalizing why work is late or missing. The *sycophancy* motive refers to a student's desire to make a favorable impression on an instructor.

Three themes surface across the research on student communication motives, instructor communication, student communication, and classroom outcomes. The first theme involves how the instructors' communication behaviors influence student motives for communicating (Myers, Mottet, & Martin, 2000). Although any verbal approach strategy (e.g., self-disclosure, personal recognition, and compliments) used by an instructor will increase student tendencies to communicate for all five motives (Mottet, Martin, & Myers, 2004), specific teacher behaviors elicit various student responses. For instance, students are more likely to communicate for the relational and sycophancy motives when they perceive their instructors as high in assertiveness and responsiveness but they are more likely to communicate for participatory reasons when they perceive their instructors as responsive only (Myers, Martin, & Mottet, 2002a). Instructor immediacy, however, is related positively to students' relational and functional motives and negatively to the excuse-making motive (Martin, Valencic, & Heisel, 2001). In a similar vein, instructor affective and instrumental skills are associated positively with students' relational, functional, and participation motives to communicate (Myers & Bryant, 2005).

Additional effective instructor behaviors include prosocial behavioral alteration techniques, which are correlated positively with students' relational motives (Martin, Heisel, & Valencic, 2000); teacher self-disclosure, which is associated positively with students' relational, excuse-making, and sycophancy motives (Cayanus & Martin, 2004; Cayanus, Martin, & Goodboy, 2004); and instructor humor, which is positively related to students' sycophancy motive but negatively related to their relational and participatory motives (Dunleavy, 2006). Most recently, students reported communicating for the relational, functional, participatory, and sycophancy motives more frequently when they perceived higher relational quality (i.e., leader member exchange) with an instructor (Myers, 2006).

The second theme involves student communication behaviors and predispositions which are also predictive of their motives for communicating with instructors. For instance, students high in communication apprehension are less likely to communicate for functional, participatory, and relational motives (Martin, Valencic, & Heisel, 2002), whereas student assertiveness is associated positively with the functional, participatory, and excuse-making motives (Myers et al., 2002a). Additionally, students who communicate for the relational, sycophancy, and participatory motives report using more indirect and observing information-seeking strategies, whereas students who communicate for the functional motive rely on the overt information-seeking strategy (Myers, Martin, & Mottet, 2002b). Students' Machiavellianism is associated positively with the functional, excuse-making, and sycophancy motives (Martin, Myers, & Mottet, 2006). Most recently, Weiss and Houser (2007) found that the degree to which students are physically and socially attracted to an instructor is related positively to the relational, functional, participatory, and sycophantic motives. Students' task attraction toward an instructor

is related positively with the relational and functional motives and negatively with the excuse-making motive.

Finally, some attention has been given to traditional learning outcomes. Students who communicate for the functional, participatory, and relational reasons report gains in affective and cognitive learning (Martin, Mottet, & Myers, 2000), although actual grades earned in a course are not related to any of the five motives (Goodboy & Martin, 2005). Students who communicate for the relational, functional, and participatory motives and avoid the excuse-making motive report high levels of communication satisfaction with their instructor (Goodboy & Martin, 2007). Students who report higher amounts of pressure in school but lower levels of overall anxiety communicate more for the functional motive, whereas students who report lower levels of worry and peer pressure are more motivated to engage in sycophantic communication (Martin, Cayanus, Weber, & Goodboy, 2006).

Student Class Participation

Student class participation refers to any comments or questions that students offer or raise in class (Fassinger, 1995a). Dancer and Kamvounias (2005) suggested that effective student participation involves preparation (e.g., reading), contribution (e.g., answering questions), group skills (e.g., allowing other students to respond), communication skills (e.g., clarity of responses), and attendance (e.g., punctuality). Because learning is an active process (Junn, 1994) and because students retain course content better when they engage in class (Petress, 2006), student participation is desirable. Not surprisingly, student participation is associated with an increase in average exam scores and overall course grades (Christle & Schuster, 2003; Daly, Kreiser, & Roghaar, 1994; Reinsch & Wambsganss, 1994; Voelkl, 1995).

The majority of participation research has focused on K-12 students rather than college students (Fassinger, 1995b) and centers on the themes of student traits, structural characteristics of the classroom, and teaching behaviors. Student traits are salient predictors of students' willingness to participate in class. Students participate less when they are high in both neuroticism and insecurity and low in self-esteem (Daly et al., 1994; Williams, 1971). Similarly, college students high in classroom communication apprehension are inhibited to participate (Neer & Kircher, 1989), whereas students high in willingness to communicate participate at higher rates (Chan & McCroskey, 1987). However, college students who consistently prepare for class and have high levels of confidence and interest participate at a higher rate than students who are unconfident and uninterested (Auster & MacRone, 1994; Fassinger, 1995a,b, 2000; Weaver & Qi, 2005). Students perceive confidence as the most important trait for participation (Fassinger, 1995a) in that students who lack a sufficient amount of confidence for participating in class are unlikely to communicate in the classroom.

The evidence for students' sex differences in participation remains mixed. Although male college students are more likely to ask questions in class (Auster & MacRone, 1994; Cunconan, 2002; Daly et al., 1994; Howard & Henney, 1998; Pearson

& West, 1991), male K-12 students tend to participate more only when there is an abundance of other male students present in the classroom (Dillon, 1982). Dillon discovered that sex differences in participation were insignificant when there were an equal number of male and female students in a class. Other studies have yielded no sex differences in participation (Fritschner, 2000; Menzel & Carrell, 1999; Weaver & Qi, 2005).

The structural characteristics of the classroom further influence students' participation. Larger classes (e.g., hundreds of students) tend to foster less student participation (Auster & MacRone, 1994; Fassinger, 1995a,b; Howard, Short, & Clark 1996; Smith, Kopfman, & Ahyun, 1996). Even with small classes, however, the majority of the participation is attributed to only a handful of students (Karp & Yoels, 1976; Weaver & Qi, 2005). For instance, Fritschner (2000) reported that about 28% of the students in her study participated verbally in class. Classes that are discussion-oriented require group work, have a slower pace, use circular or U-shaped seating, and encourage a positive emotional climate tend to encourage more student participation (Bean & Peterson, 1998; Fassinger, 1995a, 1995b; Natvig, Albrektsen, & Qvarnstrom, 2003; Neer & Kircher, 1989).

Finally, teaching behaviors can encourage or diminish student participation. Myers (2004) discovered that perceived instructor credibility was related positively to student in-class communication. Instructors perceived as supportive, responsive, and approachable, and who encourage student feedback also promote participation (Daly et al., 1994; Fassinger, 1995b, 2000). Perceived teacher verbal immediacy (Auster & MacRone, 1994; Menzel & Carrell, 1999), along with the communicator styles of human (i.e., open, attentive, friendly, relaxed), actor (i.e., dramatic, animated, impression leaving), and authority (i.e., precise, dominant, contentious) (Myers et al., 2005) are positively related to student participation. Instructor eye contact is related positively to student participation (Caproni, Levine, O'Neal, McDonald, & Garwood, 1977).

Certain types of instructor verbal communication elicit college student question asking. For example, West and Pearson (1994) discovered that students are more likely to ask questions when instructors pose questions, discuss test material, and interpose personal opinions. Even so, students only ask on average, less than four questions per hour (Pearson & West, 1991; West & Pearson, 1994). Additionally, Myers and Knox (2001) discovered that students rely on primarily overt information-seeking strategies with those teachers perceived high in clarity, verbal immediacy, and verbal receptivity. Students' use of indirect information-seeking strategies is negatively related to instructor verbal receptivity, and the use of third party and testing strategies is related negatively with instructor clarity, verbal immediacy, and verbal receptivity.

Although student communication motives and student participation share constructive outcomes in the classroom, other student communication behaviors may be much more detrimental (Boice, 1996; Feldmann, 2001). One such behavior examined in this study is student challenge behavior (Simonds, 1997).

Student Challenge Behavior

Student challenge behaviors are mediational strategies students use to seek clarification about classroom processes and to coconstruct the culture of the classroom (Simonds, 1997). Simonds (1997) explained that these behaviors are often times unexpected and undesired by teachers because of their propensity to be destructive. Four types of challenge behaviors have been identified (Simonds, Jones & Bedore, 1994). *Evaluation challenges* refer to students questioning the nature of testing procedures or grades received. These challenges include behaviors as begging for grades, complaining about test formats, and comparing scores with other students. *Procedural challenges* involve students testing the explicit and implicit rules and norms in the classroom. These challenges include showing off with inappropriate examples, talking during class, and requesting special treatment. *Practicality challenges* refer to students questioning the relevance of the course or certain tasks. These challenge behaviors include questioning how content applies to real life and inquiring why certain material is being taught. *Power challenges* are student attempts to influence the behavior of the teacher or other students in the class. These challenges include attempting to embarrass the teacher and challenging the teacher's expertise on the course content.

To date, scant research has been conducted on student challenge behaviors. Jones and Simonds (1994) found that the frequency of challenge behaviors increases during the semester, although the type of challenges used in a classroom may vary from week to week. Myers (1999) discovered that an instructor's use of referent and expert power is related negatively to all four student challenge behaviors. Additionally, all challenge behaviors are related negatively to perceived instructor clarity (Simonds, 1998; Simonds, Jones, & Bedore, 1994).

Traditional Learning Outcomes

Four traditional learning outcomes were examined in this study: cognitive learning, affective learning, state motivation, and student satisfaction. Cognitive learning ranges from the simple retention of information to complex synthesis of material (Bloom, Hastings, & Madaus, 1971). Affective learning involves student feelings, emotions, and degrees of acceptance toward the subject matter (Krathwohl, Bloom, & Masia, 1964). State motivation to learn refers to student attempts to obtain academic knowledge or skills from classroom activities by finding these activities meaningful (Brophy, 1987). State motivation to learn, then, is not a general predisposition but instead can be influenced by instructor behaviors in the classroom (Myers, 2002; Myers & Rocca, 2001). Student satisfaction refers to the degree to which students experience fulfillment when communicating with an instructor (Frymier, 2005).

These learning outcomes were chosen for three reasons. First, these variables represent a variety of ways to examine student success. Second, a number of positive instructor behaviors (e.g., immediacy) have been shown to influence these outcomes (Christophel, 1990; Kelley & Gorham, 1988; Richmond, Gorham, & McCroskey,

1987). Third, teacher confirmation is one positive teaching behavior already associated with affective learning, cognitive learning, and state motivation (Ellis, 2000, 2004) and likely to be associated with the additional learning outcome of student satisfaction.

Statement of Problem/Hypotheses

The goal of this study was determine if teacher confirmation impacts both positive and negative student communication in the classroom and student learning outcomes. The first two hypotheses examine the effects of teacher confirmation on positive student communication behaviors, whereas the third hypothesis considers negative student communication behaviors. The fourth hypothesis explores the effect of teacher confirmation on traditional learning outcomes.

The first hypothesis examined whether teacher confirmation increases students' motives for communicating with instructors. Positive instructor communication behaviors, such as verbal approach strategies (Mottet et al., 2004), responsiveness (Myers et al., 2002a), and immediacy (Martin et al., 2001), are associated with an increase in student motives to communicate with an instructor. Thus far, teacher confirmation research has suggested that confirmation is another positive instructor communication behavior associated with positive student outcomes. Moreover, when students experience the emotion of pleasure, they communicate for the relational, functional, participatory, and sycophancy motives (Martin, Mottet, & Myers, 2005). Communicating confirmation messages of student value and significance are likely to evoke pleasurable emotions. Therefore, the following hypothesis is posited:

> H1: Students who perceive an instructor as confirming are motivated to communicate with their instructor for the relational, functional, participatory, and sycophantic motives at a higher rate than students who perceive an instructor as somewhat confirming or not confirming.

The second hypothesis examined whether teacher confirmation increases student classroom participation. Instructors who communicate in an approachable and supportive manner promote student participation (Fassinger, 1995b, 2000). Considering that student perceptions of supportiveness are created by confirming teachers (Rosenfeld & Jarrard, 1985), the following hypothesis is posited:

> H2: Students who perceive an instructor as confirming participate in class at a higher rate than students who perceive an instructor as somewhat confirming or not confirming.

The third hypothesis examined whether teacher confirmation decreases student challenge behaviors in the classroom. Students associate teacher confirmation with instructor reward power (Turman & Schrodt, 2006). Less negative student classroom behavior occurs when an instructor uses prosocial (i.e., rewarding) compliance gaining strategies (Kearney, Plax, Sorensen, & Smith, 1988). Therefore, teacher confirmation should be one prosocial behavior that deters negative student behavior

in the classroom if students perceive such confirmation behaviors as rewarding. Therefore, the following hypothesis is posited:

> H3: Students who perceive an instructor as confirming use challenge behaviors at a lower rate than students who perceive an instructor as somewhat confirming or not confirming.

The fourth hypothesis examined whether teacher confirmation increases traditional learning outcomes. Although teacher confirmation has already been associated positively with affective learning, cognitive learning, and state motivation (Ellis, 2000, 2004), research has yet to examine these relationships using an experimental methodology. Considering that teacher confirmation is already associated with these three learning outcomes, it is likely that student satisfaction differs as a function of teacher confirmation levels. Therefore, the following hypothesis is posited:

> H4: Students who perceive an instructor as confirming have greater levels of cognitive learning, affective learning, state motivation, and satisfaction than students who perceive an instructor as somewhat confirming or not confirming.

Method

This study was conducted in three phases. These phases occurred over a 4-week time period. Pilot testing was conducted before phase one began. Phase 1 entailed the development of written scripts for pilot testing. Phase 2 involved the training of a guest lecture to deliver these scripts. Phase 3 consisted of the actual experiment itself and manipulation check.

Participants

Two sets of participants were utilized in this study. The first set involved participants in the initial pilot testing of the scripts designed specifically for this study (phase 1). The second set consisted of students who participated in a subsequent pilot test (phase 2) and the final experiment (phase 3). Participants in phase one were 108 students (54 men, 54 women) enrolled in one of three sections of a sophomore-level communication course at a Mid-Atlantic University. This course met twice a week for 75 minutes. Students' ages ranged from 19 to 24 years ($M = 20.39$, $SD = 1.12$). Sampling from the same participant set, another 110 students (53 men, 57 women) from these classes were solicited whose ages ranged from 19 to 35 years ($M = 20.61$, $SD = 1.96$). These participants were solicited for a second pilot-testing of the revised scripts developed for this experiment.

Participants in phases 2 and 3 were 403 students (209 men, 191 women, three unreported) enrolled in one of three sections of an introductory communication course at a Mid-Atlantic University. This course meets once a week for 50 minutes. The participants' ages ranged from 17 to 56 years ($M = 19.86$, $SD = 2.61$).

Procedures

Phase 1. This phase focused on script development designed to manipulate levels of teacher confirmation required for the experimental conditions. Three lecture scripts were developed for a live lecture occurring in phase 2. These scripts discussed four topics of computer-mediated communication (CMC): new media literacy, organizational CMC, interpersonal CMC, and CMC in distance education. These topics were selected because students in the samples were rarely exposed to this material in other communication classes. Although the lecture material in each script remained constant, teacher confirmation was manipulated in each of the three sections of the course (i.e., not confirming, somewhat confirming, and confirming), with each section receiving one script. Script 1 (i.e., not confirming) contained the lecture material. Script 2 (i.e., somewhat confirming) contained the same lecture material but included one dimension of teacher confirmation (i.e., positive teaching style messages) in the script. Script 3 (i.e., confirming) contained the same lecture material but included all three teacher confirmation dimensions in the script (i.e., responding to questions, demonstrating interest, and positive teaching style).

These lecture manipulations were pilot tested to determine if teacher confirmation was successfully manipulated among the three scripted conditions. Students ($N = 108$) from the first participant set enrolled in three sections of the sophomore-level communication studies class read one of the three scripts. These scripts were identical except for the confirmation messages presented in script 2 and script 3. After reading one of three scripts, students responded to three items taken from Ellis's (2000) Teacher Confirmation Scale as a manipulation check. One item from each subscale was used that best represented each dimension of teacher confirmation. These items were "indicates that the instructor appreciates students' questions or comments" for *responding to questions*, "communicates that the instructor is interested in whether students are learning" for *demonstrating interest*, and "uses a variety of teaching techniques to help students understand course material" for *teaching style*. Responses were solicited using a 5-point Likert scale ranging from (0) *strongly disagree* to (4) *strongly agree*.

Analysis of Variance (ANOVA) was computed for the manipulation check with the teacher confirmation scripts (i.e., not confirming, somewhat confirming, and confirming) serving as the independent variable and the composite score on the proposed teacher confirmation items serving as the dependent variable. If confirmation was manipulated correctly, students would rate the confirming condition as most confirming, followed by somewhat confirming and not confirming. Results indicated that overall teacher confirmation was manipulated among the scripts, $F(2, 105) = 31.87$, $p < .001$. However, results of post-hoc Scheffe tests indicated that the manipulations were not successful across each dimension of confirmation in that students perceived equal levels of the demonstrating interest dimension between scripts 2 and 3. Most notably, there were no differences in perceptions of teaching style across all three scripts.

Therefore, these initial scripts were revised. Script 1 (i.e., not confirming) was not revised. Script 2 contained the same lecture material, but also included several confirmation messages from each dimension (i.e., responding to questions, demonstrating interest, and positive teaching style) in the script, rather than from one dimension. Script 3 (i.e., confirming) contained the same lecture material but also included stronger teacher confirmation messages in the script (i.e., responding to questions, demonstrating interest, and positive teaching style). A second sample of students from the first participant set provided input on the revised scripts. As in the initial pilot testing of the scripts, students in this sample were enrolled in three sections of the sophomore-level communication studies class ($N = 110$). Students read one of the three revised scripts. They were provided with descriptions of the three dimensions of teacher confirmation and were asked to rate their level of agreement concerning how well these dimensions were represented in the script they read based on a 7-point Likert scale ranging from (1) *strongly disagree* to (7) *strongly agree*. Results of a Multivariate Analysis of Variance (MANOVA) revealed a significant model with the confirmation scripts (i.e., not confirming, somewhat confirming, confirming) serving as the independent variable and teacher confirmation descriptions (i.e., responding to questions, demonstrating interest, and teaching style) serving simultaneously as the dependent variables, Wilks' $\lambda = .23$, $F(6, 210) = 37.61$, $p < .001$. Univariate effects were significant for the responding to questions dimension, $F(2, 107) = 46.76$, $p < .001$, $\eta^2 = .47$; demonstrating interest dimension, $F(2, 107) = 103.81$, $p < .001$, $\eta^2 = .66$; teaching style dimension, $F(2, 107) = 87.38$, $p < .001$, $\eta^2 = .62$; and summative scores of teacher confirmation, $F(2, 107) = 115.09$, $p < .001$, $\eta^2 = .68$. Post-hoc Scheffe tests indicated that the teacher confirmation dimensions and overall confirmation scores were effectively manipulated. Therefore, the revised scripts were used in this study. Results of the manipulation check are presented in Table 1.

Phase 2. After pilot-testing the written scripts, a second type of pilot test was conducted, but this time the test involved a teacher delivering the scripts. Students in each of three sections of the introductory communication class were informed by the

Table 1 Results of ANOVAs Between Scripts and Perceived Teacher Confirmation

	Mean score				
	Not confirming[a]	Somewhat confirming[b]	Confirming[c]	F	η^2
Responding to questions	2.42_{ab}	4.47_{ac}	5.91_{bc}	46.76***	.47
Demonstrating interest	2.63_{ab}	6.18_{a}	6.20_{b}	103.81***	.66
Teaching style	2.71_{ab}	6.04_{a}	6.29_{b}	87.38***	.61
Overall confirmation	7.75_{ab}	16.67_{ac}	18.40_{bc}	115.09***	.68

Note: Means sharing subscripts across each row are significantly different from each other.
[a]24 participants. [b]51 participants. [c]35 participants.
*$p < .05$, **$p < .01$, ***$p < .001$.

course instructor that a "guest lecturer" would teach a short unit on computer-mediated communication using PowerPoint. The following week, students were informed that the guest lecturer was a possible doctoral candidate, and the information taught by the candidate would be included on their final examination. Students also were informed that their feedback about the guest lecturer would be solicited. An African American (age 35), female graduate teaching assistant (GTA) with a Master's degree student in communication studies was trained to teach each of the three scripts using a wireless microphone. She acted as the guest lecturer in phase 2.

Phase 3. Students were assigned to listen to one of three teaching scripts from the guest lecturer who was introduced by the course instructor. Each lecture was approximately 15 minutes in length, which coincides with previous experimental research using live lecture manipulations (Chesebro, 2003; Comstock, Rowell, & Bowers, 1995; Titsworth, 2004). After the lecture, the course instructor asked students to complete a feedback survey about the guest lecturer. Participants completed a survey consisting of the Teacher Confirmation Scale (Ellis, 2000) as a manipulation check for each condition. They also completed the Student Communication Motives Scale (Martin et al., 1999), the Class Participation Scale (Fassinger, 1995b), the Critical Incidents Frequency Report (Simonds, 1997), the Revised Cognitive Learning Indicators Scale (Frymier & Houser, 1999), the Affective Learning Scale (McCroskey, Richmond, Plax, & Kearney, 1985), the Student Motivation Scale (Richmond, 1990), and the Student Satisfaction Scale (Frymier & Houser, 1998) in addition to demographic questions. Participants were also asked to indicate if they knew the GTA presenting the lecture. Students who indicated "yes" ($N = 51$) were deleted from the sample so that prior experience with the GTA did not affect the results (Frymier & Houser, 1999).

Debriefing. Students were debriefed about the experiment in three ways. Students were (a) told that the guest lecturer was not a possible doctoral candidate, (b) informed about the purpose of the study, which was to examine the effects of teacher confirmation on student communication and learning, and (c) afforded the opportunity to ask any questions about the study. Students who were missing due to normal absences were not debriefed. Additionally, some students may have been debriefed who were not present during phase two.

Instrumentation

The *Teacher Confirmation Scale* is 16 items and asks participants to report on the frequency with which an instructor exhibits confirming behaviors in the classroom across three dimensions: responding to questions, demonstrating interest, and teaching style. Responses were solicited using a 5-point Likert scale ranging from (0) *strongly disagree* to (4) *strongly agree.* Previous reliability coefficients ranging from .81 to .87 have been reported for the three subscales (Ellis, 2004; Schrodt et al., 2006;

Turman & Schrodt, 2006). In this study, the obtained Cronbach alpha was .95 ($M = 47.58$, $SD = 12.34$) for the summed scale.

The *Student Communication Motives* Scale is 30 items and asks participants to report on their motives for communicating with their instructors: relational, functional, participatory, excuse-making, and sycophancy. Responses were solicited using a 5-point Likert-type scale ranging from (1) *not at all like me* to (5) *exactly like* me. Previous reliability coefficients ranging from .81 to .91 have been reported for the five subscales (Martin et al., 2006; Mottet et al., 2004; Myers, 2006). The obtained Cronbach alpha for each subscale was .91 for *relational* ($M = 16.15$, $SD = 5.06$), .89 for *functional* ($M = 22.24$, $SD = 4.59$), .88 for *participatory* ($M = 17.62$, $SD = 5.21$), .90 for *excuse making* ($M = 16.40$, $SD = 5.83$), and .88 for *sycophancy* ($M = 15.58$, $SD = 5.48$).

The *Class Participation Scale* is six items and asks participants to report on how often they participate during class. One item asks students to determine the frequency of times they participate in a given class. Because students never had a class with the guest instructor, this item was omitted, resulting in a 5-item scale. Responses were solicited using a 5-point Likert-type scale ranging from (0) *never* to (4) *very often*. Previous reliability coefficients ranging from .68 to .84 have been reported for the summed six-item scale (Fassinger, 1995a, 1995b, 2000). In this study, the obtained Cronbach alpha was .92 ($M = 10.56$, $SD = 4.68$) for the summed scale.

The *Critical Incidents Frequency Report* is 20 items and asks participants to report on the frequency of their use of four types of challenge behaviors. Responses were solicited using a 5-point Likert-type scale ranging from (0) *not at all* to (4) *very often*. This measure normally factors into four subscales that assess the frequency of procedural, evaluation, practicality, and power play challenges in the classroom. Previous reliability coefficients ranging from .65 to .93 have been reported for the four subscales (Myers, 1999; Simonds, 1997, 1998). The principal-components analysis solution for this data set did not result in a clearly-defined four-factor solution.[1] Instead, a unidimensional solution resulted in the best fit for these data, similar to the solution reported by Jones and Simonds (1994). Cronbach's alpha was .93 ($M = 19.40$, $SD = 13.76$) for the 20-item scale.

The *Revised Cognitive Learning Indicators Scale* is seven items and asks participants to report on behaviors or activities associated with learning course content. Responses were solicited using a 5-point Likert-type scale ranging from (0) *never* to (4) *very often*. Previous reliability coefficients ranging from .83 to .86 have been reported for the summed scale (Frymier, 2005; Frymier & Houser, 1999, 2000). In this study, the obtained Cronbach alpha was .79 ($M = 13.44$, $SD = 4.34$).

The *Affective Learning Scale* is 12 items and asks participants to report on their levels of affect for the course content, course instructor, and behaviors recommended in the course. Responses were solicited using three 7-point bipolar adjective subscales. Previous reliability coefficients of .96 have been reported for the summed scale (Ellis, 2000, 2004). In this study, the obtained Cronbach alpha was .95 ($M = 68.87$, $SD = 13.90$).

The *Student Motivation Scale* is five items and asks participants to report on their levels of state motivation toward a specific course and instructor. Responses were solicited using a 7-point bipolar adjective scale. Previous reliability coefficients ranging from .89 to .93 have been reported for the summed scale (Myers & Zhong, 2004; Richmond, 1990; Weber, Martin, & Cayanus, 2005). In this study, the obtained Cronbach alpha was .91 ($M = 24.92$, $SD = 7.15$) for the summed scale.

The *Student Satisfaction Scale* is three items and asks participants to report on their feelings of satisfaction with their instructor. Responses were solicited using a 7-point bipolar adjective scale. Previous reliability coefficients ranging from .92 to .95 have been reported for the summed scale (Frymier, 2005; Frymier & Houser, 1998; Myers & Bryant, 2002). In this study, the obtained Cronbach alpha was .95 ($M = 15.77$, $SD = 4.36$) for the summed scale.

Results

Prior to tests of the hypotheses, correlations were computed among all variables. The means, standard deviations, and correlations are reported in Table 2.

Manipulation Check

A manipulation check was conducted to determine whether teacher confirmation was manipulated correctly across the three scripts during the live lecture. An ANOVA was computed to conduct the manipulation check with the type of script (i.e., not confirming, somewhat confirming, and confirming) serving as the independent variable and the summed score of the Teacher Confirmation Scale serving as the single dependent variable. The results yielded a statistically significant model, $F(2, 400) = 116.31$, $p < .001$, $\eta^2 = .37$. An examination of the mean scores using Scheffe post hoc tests revealed significant differences among all three scripts. Perceptions of confirmation were lowest in the not confirming script ($M = 37.68$, $SD = 11.75$), followed by the somewhat confirming script ($M = 49.24$, $SD = 10.45$) and the confirming script ($M = 55.97$, $SD = 6.37$). Therefore, the manipulation of teacher confirmation across the three lectures was deemed successful.

Hypotheses

Significant findings were discovered for all four hypotheses and in the directions anticipated. However, the confirming condition was not always superior to the somewhat confirming condition. H1 predicted that students who perceive an instructor as confirming are motivated to communicate with their instructor for the relational, functional, participatory, and sycophantic motives at a higher rate than students who perceive an instructor as somewhat confirming or not confirming. A MANOVA was computed to test this hypothesis with the teacher confirmation condition (i.e., not confirming, somewhat confirming, and confirming) serving as the independent variable and the five scores on the subscales of the Student Commu-

Table 2 Correlations Between Variables

Variables	*M*	*SD*	α	1	2	3	4	5	6	7	8	9	10	11
1. Confirmation	47.58	12.34	.95											
2. Relational motive	16.15	5.03	.91	.23†										
3. Functional motive	22.24	4.59	.89	.23†	.35†									
4. Excuse-making motive	16.40	5.83	.90	−.04	.28†	.23†								
5. Participatory motive	17.62	27.10	.88	.24†	.62†	.44†	.44†							
6. Sycophancy motive	15.58	5.47	.88	.09	.40†	.21†	.50†	.59†						
7. Student participation	10.56	4.68	.92	.27†	.43†	.33†	.09	.49†	.25†					
8. Challenge behavior	19.40	13.76	.93	−.31†	.01	−.19†	.27†	.03	.16**	.05				
9. Cognitive learning	13.44	4.34	.79	.32†	.36†	.42†	.11**	.39†	.17†	.58†	−.09			
10. Affective learning	68.87	13.90	.95	.59†	.23†	.34†	−.07	.26†	.05	.35†	−.40†	.45†		
11. State motivation	24.92	7.15	.91	.62†	.29†	.31†	−.03	.30†	.11*	.32†	−.31†	.42†	.70†	
12. Student satisfaction	15.77	4.36	.95	.58†	.26†	.26†	−.02	.30†	.10*	.32†	−.29†	.40†	.72†	.84†

*$p < .05$. **$p < .01$. †$p < .001$.

nication Motives Scale serving simultaneously as the dependent variables. This hypothesis was not supported, although results of the MANOVA yielded a statistically significant model, Wilks' $\lambda = .90$, $F(10, 792) = 4.58$, $p < .001$.

Univariate effects were significant for the relational motive, $F(2, 400) = 4.73$, $p < .01$, $\eta^2 = .02$; the functional motive, $F(2, 400) = 5.97$, $p < .01$, $\eta^2 = .03$; the participatory motive, $F(2, 400) = 4.74$, $p < .01$, $\eta^2 = .02$; and the sycophancy motive, $F(2, 400) = 5.54$, $p < .01$, $\eta^2 = .03$. Additionally, a univariate effect was discovered for the excuse-making motive, $F(2, 400) = 14.54$, $p < .001$, $\eta^2 = .07$. An examination of the mean scores using Scheffe post-hoc tests revealed significant differences for each student motive. Overall, the somewhat confirming condition produced the highest rates of communication for the relational, functional, participatory, and sycophancy motives. Participants in the somewhat confirming condition reported being more likely to communicate with an instructor for these reasons. Results of univariate effects for student communication motives are reported in Table 3.

Specifically, students reported communicating for the *relational* motive in the somewhat confirming condition ($M = 17.09$, $SD = 5.20$) more frequently than the confirming condition ($M = 15.22$, $SD = 5.21$). The not confirming condition was not significantly different from the somewhat confirming condition or confirming condition ($M = 16.06$, $SD = 4.49$).

Students reported communicating for the *functional* motive in the somewhat confirming condition ($M = 23.28$, $SD = 4.56$) more frequently than both the not confirming condition ($M = 21.50$, $SD = 4.79$) and the confirming condition ($M = 21.85$, $SD = 4.24$). The not confirming condition was not significantly different from the confirming condition.

Students reported communicating for the *participatory* motive in the somewhat confirming condition ($M = 18.68$, $SD = 5.54$) more frequently than the confirming condition ($M = 16.92$, $SD = 5.12$). The not confirming condition was not significantly different from the somewhat confirming condition or confirming condition ($M = 17.15$, $SD = 4.77$).

Table 3 Results of ANOVAs Between Teacher Confirmation and Student Communication Motives

	Mean score				
	Not confirming[a]	Somewhat confirming[b]	Confirming[c]	F	η^2
Relational	16.06	17.09_a	15.22_a	4.73**	.02
Functional	21.50_a	23.28_{ab}	21.85_b	5.97**	.03
Participatory	17.15	18.68_a	16.92_a	4.73**	.02
Excuse-Making	17.17_a	17.68_b	14.22_{ab}	14.54***	.07
Sycophancy	16.02_a	16.34_b	14.28_{ab}	5.54**	.03

Note: Means sharing subscripts across each row are significantly different from each other.
[a]133 participants. [b]141 participants. [c]129 participants.
*$p < .05$, **$p < .01$, ***$p < .001$.

Students reported communicating for the *sycophancy* motive more frequently in the not confirming condition ($M = 16.02$, $SD = 4.96$) and in the somewhat confirming condition ($M = 16.34$, $SD = 5.52$) than in the confirming condition ($M = 14.28$, $SD = 5.74$). The not confirming condition was not significantly different from the somewhat confirming condition. Finally, students reported communicating for the *excuse-making* motive more frequently in the not confirming condition ($M = 17.17$, $SD = 5.53$) and in the somewhat confirming condition ($M = 17.68$, $SD = 5.82$) than in the confirming condition ($M = 14.22$, $SD = 5.54$). The not confirming condition was not significantly different from the somewhat confirming condition.

H2 predicted that students who perceive an instructor as confirming participate in class at a higher rate than students who perceive an instructor as somewhat confirming or not confirming. An ANOVA was computed with the teacher confirmation condition (i.e., not confirming, somewhat confirming, confirming) serving as the independent variable and the summed score of the Class Participation Scale serving as the dependent variable. The results yielded a statistically significant model, $F(2, 400) = 4.91$, $p < .01$, $\eta^2 = .02$. This hypothesis was partially supported. An examination of the mean scores using Scheffe post hoc tests revealed significant differences in rates of participation. Students reported significantly less participation in the not confirming condition ($M = 9.58$, $SD = 4.92$) than in the confirming condition ($M = 11.31$, $SD = 3.99$). However, the somewhat confirming condition ($M = 10.80$, $SD = 4.88$) was not significantly different from either the not confirming condition or the confirming condition.

H3 predicted that students who perceive an instructor as confirming use challenge behaviors at a lower rate than students who perceive an instructor as somewhat confirming or not confirming. An ANOVA was computed with the teacher confirmation condition (i.e., not confirming, somewhat confirming, confirming) serving as the independent variable and the summed score of the Critical Incidents Frequency Report serving as the dependent variable. This hypothesis was supported. The results yielded a statistically significant model, $F(2, 400) = 10.76$, $p < .001$, $\eta^2 = .05$. An examination of the mean scores using Scheffe post hoc tests revealed significant differences between rates of challenge behaviors. Students reported significantly more challenge behaviors in the not confirming condition ($M = 23.15$, $SD = 14.30$) and the somewhat confirming condition ($M = 19.48$, 14.55) than the confirming condition ($M = 15.45$, $SD =$ 11.03). There was no significant difference between the not confirming condition and the somewhat confirming condition.

H4 predicted that students who perceive an instructor as confirming would report greater levels of cognitive learning, affective learning, state motivation, and satisfaction than students who perceive an instructor as somewhat confirming or not confirming. A MANOVA was computed to test this hypothesis with the teacher confirmation condition (i.e., not confirming, somewhat confirming, confirming) serving as the independent variable and summed scores on the Revised Cognitive Learning Indicators Scale, Affective Learning Scale, Student Motivation Scale, and

Student Satisfaction Scale serving simultaneously as the dependent variables. This hypothesis was partially supported. The results yielded a statistically significant model, Wilks' $\lambda = .85$, $F(8, 792) = 8.41$, $p < .001$. Univariate effects were significant for cognitive learning, $F(2, 399) = 7.46$, $p < .01$, $\eta^2 = .04$; affective learning, $F(2, 399) = 28.28$, $p < .001$, $\eta^2 = .12$; state motivation, $F(2, 399) = 27.87$, $p < .001$, $\eta^2 = .12$; and student satisfaction, $F(2, 399) = 26.86$, $p < .001$, $\eta^2 = .12$. An examination of the mean scores using Scheffe post-hoc tests revealed significant differences for each learning outcome. Overall, the somewhat confirming and confirming conditions produced the highest scores in learning outcomes. Results of univariate effects for learning outcomes are reported in Table 4.

Specifically, students reported greater levels of cognitive learning in the confirming condition ($M = 17.11$, $SD = 4.73$) than the not confirming condition ($M = 14.79$, $SD = 4.99$). The somewhat confirming condition ($M = 16.16$, $SD = 4.91$) was not significantly different from either the not confirming condition or the confirming condition.

Students reported greater levels of affective learning in both the somewhat confirming condition ($M = 70.65$, $SD = 13.27$) and the confirming condition ($M = 73.51$, $SD = 73.51$) than the not confirming condition ($M = 61.92$, $SD = 15.09$). The somewhat confirming condition and the confirming condition were not significantly different from one another.

Students reported greater levels of state motivation in both the somewhat confirming condition ($M = 25.77$, $SD = 7.54$) and the confirming condition ($M = 27.52$, $SD = 7.15$) than the not confirming condition ($M = 21.52$, $SD = 6.52$). The somewhat confirming condition and the confirming condition were not significantly different from one another.

Finally, students reported greater levels of student satisfaction in both the somewhat confirming condition ($M = 16.45$, $SD = 4.62$) and the confirming condition ($M = 17.20$, $SD = 3.47$) than the not confirming condition ($M = 13.68$, $SD = 4.07$). The somewhat confirming condition and the confirming condition were not significantly different from one another.

Table 4 Results of ANOVAs Between Teacher Confirmation and Learning Outcomes

	Mean score				
	Not confirming[a]	Somewhat confirming[b]	Confirming[c]	F	η^2
Cognitive learning	14.79_a	16.16	17.11_a	7.46**	.04
Affective learning	61.92_{ab}	70.65_a	73.51_b	28.28***	.12
State motivation	21.52_{ab}	25.77_a	27.52_b	27.84***	.12
Student satisfaction	13.68_{ab}	16.44_a	17.20_b	26.84***	.12

Note: Means sharing subscripts across each row are significantly different from each other.
[a]133 participants. [b]141 participants. [c]128 participants.
*$p < .05$, **$p < .01$, ***$p < .001$.

Discussion

The purpose of this study was to examine differences in student communication (i.e., student motives to communicate with their instructors, student class participation, and student challenge behavior) and learning outcomes (i.e., cognitive learning, affective learning, motivation, and student satisfaction) attributable to teacher confirmation behavior in the college classroom. While significant findings were obtained for all four hypotheses and in the directions predicted, the results did not always support the primacy of teacher confirmation.

Collectively, these results suggest that competent instruction involves teacher confirmation. Both the somewhat confirming and the confirming conditions yielded more positive student communication behaviors and traditional learning outcomes than the not confirming condition. In the somewhat confirming condition, students reported being most likely to talk to an instructor for the relational, functional, participatory, and sycophancy reasons. Students reported being least likely to communicate for the excuse-making motive in the confirming condition. Also, student participation was significantly greater in the somewhat confirming and confirming conditions, whereas student challenge behavior occurred significantly less in the confirming condition. Furthermore, all traditional learning outcomes were greatest in the confirming condition. These collective results attest to the importance of instructors using confirmation behaviors in the classroom. The findings from each hypothesis share an important link: They suggest that instructors who do not employ confirmation behaviors may stifle desirable student communication behaviors such as participation, encourage objectionable behavior such as challenge behavior, and hinder student learning.

This discovered link among all four hypotheses may be due to two mediating variables: caring and understanding. In explanation, teacher confirmation messages are nearly identical to those behaviors that communicate caring to students (Ellis, 2000; Teven & Gorham, 1998). Considering that confirmation messages communicate a value of significance and worth (Cissna & Sieburg, 1981), it is not surprising that many caring and confirmation behaviors share conceptual and operational overlap. Research has suggested that perceived instructor caring is associated with positive instructor evaluation and learning outcomes (Teven & Hanson, 2004; Teven & McCroskey, 1997). Confirmation, then, may communicate caring to students which creates positive communication in the classroom and fosters affect and learning in a linear progression.

Teacher confirmation messages may also increase student perceived understanding. Cahn (1984) explained that student-centered behaviors such as demonstrating interest and using a participatory teaching style (e.g., asking/responding to questions) are predictive of perceptions of understanding from students. Furthermore, Schrodt et al. (2006) provided support for this contention by revealing that teacher confirmation leads to perceived instructor understanding. This increase in understanding encourages positive instructor evaluations and perceptions of credibility.

Students may be more likely to communicate in a positive manner and have more affect for an instructor if perceptions of understanding are created via confirmation.

The argument that teacher confirmation may lead to both student perceptions of instructor caring and understanding may help to explain how confirmation influences student communication motives, participation, and challenge behavior. Student motives for communicating with their instructor are dependent on these perceptions. For example, students' relational quality with an instructor is related positively to the relational, functional, participation, and sycophancy motives (Myers, 2006). One way to increase relational quality is to communicate caring (Teven & McCroskey, 1997) and understanding (Myers & Bryant, 2002). Not surprisingly, the results discovered for student communication motives in this study are analogous to those results obtained by Myers (2006).

Myers (2004) revealed that perceived caring is associated positively with student in-class participation. Additionally, students are more likely to participate when they receive cooperation and understanding from instructors (Fassinger, 2000). Like caring and understanding instructors, confirming teachers are likely to elicit student interaction. By valuing what students have to say, confirming teachers reinforce student talk.

Furthermore, perceived caring and understanding should reduce challenge behavior and incivility in the classroom. By creating a mutually rewarding classroom environment, student incivility in the classroom can be prevented (Bray & Favero, 2004; Yoakley, 1975). As Palardy (1995) noted, communicating a sense of caring to students prevents incivility in the classroom. Understanding, too, has been suggested to reduce behaviors similar to challenge behaviors. Tiberius and Flak (1999) suggested that teachers communicate an understanding to students by accepting differences and classroom conflict.

For the most part, the results obtained in this study were expected—with one exception. Student motive scores were highest not in the confirming condition but in the somewhat confirming condition. Titsworth (2004) suggested that high levels of teacher immediacy are not perceived as favorably by students as moderate levels. As manipulated, the confirming condition, requiring substantially more eye contact and smiling behaviors, may have appeared too confirming and unnatural to students. Should those teacher behaviors have been perceived as "phony" or "unreal," students may have been reluctant to communicate with the "guest lecturer" for any reason. Alternatively, confirming instructors may meet the needs of students, necessitating fewer reasons for students to communicate. In support of this latter explanation, students reported being most satisfied and motivated to learn with the confirming teacher.

Limitations of this study include the cross-sectional design of the study and self-report data. Students were subjected to a single guest lecture instead of a full semester course assessment. A longitudinal design may have provided different results if confirmation was manipulated throughout an entire semester with the class instructor. In this study, students did not have an entire semester to form attitudes and develop affect for an instructor. Accordingly, results from this study are based on

early impressions of an instructor, which may change over the course of the semester (McCroskey, Richmond, & Bennett, 2006) or may be influenced by established workload expectations (Mottet, Parker-Raley, Beebe, & Cunningham, 2007). Furthermore, participants provided self-report data of their attitudes and behaviors in the post-test. Self-reports may not necessarily be indicative of students' actual behaviors in the classroom.

The importance of effective instructional communication behaviors on student outcomes is indisputable (Waldeck, Kearney, & Plax, 2001). Based on the findings obtained in this study, teacher confirmation appears to be yet another behavior that influences both student classroom involvement and student learning outcomes. To facilitate teacher–student classroom communication, instructors would be well advised not only to consider whether their classroom behaviors are confirming, but to implement and utilize teacher confirmation behaviors in their classrooms.

Note

[1] Factor 1 (eigenvalue = 9.24) accounted for 46.18% of the variance with items 11, 14, 15, 16, 17, 18, 19, and 20 loading on this factor. Factor 2 (eigenvalue = 1.37) accounted for 6.83% of the variance, with items 2, 3, and 7 loading on this factor. Factor 3 (eigenvalue = 1.14) accounted for 5.71% of the variance with items 1, 4, and 5 loading on this factor. Factor 4 (eigenvalue = 1.01) accounted for 5.05% of the variance with items 8 and 9 loading on this factor. Items 6, 10, 12, and 13 did not load on any factor.

References

Auster, C. J., & MacRone, M. (1994). The classroom as a negotiated social setting: An empirical study of the effects of faculty members' behavior on students' participation. *Teaching Sociology*, *22*, 289–300.

Bean, J. C., & Peterson, D. (1998). Grading classroom participation. *New Directions for Teaching and Learning*, *74*, 33–40.

Bloom, B. S., Hastings, J. T., & Madaus, G. F. (1971). *Handbook on formative and summative evaluation of student learning*. New York: McGraw-Hill.

Boice, R. (1996). Classroom incivilities. *Research in Higher Education*, *37*, 453–486.

Bray, N. J., & Favero, M. D. (2004). Sociological explanations for faculty and student classroom incivilities. *New Directions for Teaching and Learning*, *99*, 9–19.

Brophy, J. (1987). Synthesis of research on strategies for motivating students to learn. *Educational Leadership*, *45*, 40–48.

Cahn, D. D. (1984). Teacher–student relationships: Perceived understanding. *Communication Research Reports*, *1*, 65–67.

Caproni, V., Levine, D., O'Neal, E., McDonald, P., & Garwood, G. (1977). Seating position, instructor's eye contact availability, and student participation in a small seminar. *Journal of Social Psychology*, *103*, 315–316.

Cayanus, J. L., & Martin, M. M. (2004). An instructor self-disclosure scale. *Communication Research Reports*, *21*, 252–263.

Cayanus, J. L., Martin, M. M., & Goodboy, A. K. (2004, April). *The relationships of teacher self-disclosure with student motives to communicate and credibility*. Paper presented at the annual meeting of the Eastern Communication Association, Boston, MA.

Chan, B., & McCroskey, J. C. (1987). The WTC scale as a predictor of classroom participation. *Communication Research Reports*, *4*, 47–50.

Chesebro, J. L. (2003). Effects of teacher clarity and nonverbal immediacy on student learning, receiver apprehension, and affect. *Communication Education*, *52*, 135–147.

Christle, C. A., & Schuster, J. W. (2003). The effects of using response cards on student participation, academic achievement, and on-task behavior during whole-class, math instruction. *Journal of Behavioral Education*, *12*, 147–165.

Christophel, D. M. (1990). The relationship among teacher immediacy behaviors, student motivation, and learning. *Communication Education*, *39*, 323–340.

Cissna, K. N., & Keating, S. (1979). Speech communication antecedents of perceived confirmation. *Western Journal of Speech Communication*, *43*, 48–60.

Cissna, K. N., & Sieburg, E. (1981). Patterns of interactional confirmation and disconfirmation. In C. Wilder-Mott & J. H. Weakland (Eds.), *Rigor and imagination: Essays from the legacy of Gregory Bateson* (pp. 253–282). New York: Praeger.

Cissna, K. N., & Sieburg, E. (2006). Patterns of interactional confirmation and disconfirmation. In J. Stewart (Ed.), *Bridges not walls: A book about interpersonal communication* (pp. 429–438). Boston: McGraw-Hill.

Comstock, J., Rowell, E., & Bowers, J. W. (1995). Food for thought: Teacher nonverbal immediacy, student learning, and curvilinearity. *Communication Education*, *44*, 251–266.

Cunconan, T. M. (2002). The communicative role of a student: Conceptualizing, measuring, and validating a student's propensity to ask questions in the college classroom. *Speech and Theatre Association of Missouri Journal*, *32*, 1–22.

Dailey, R. M. (2006). Confirmation in parent-adolescent relationships and adolescent openness: Toward extending confirmation theory. *Communication Monographs*, *73*, 434–458.

Daly, J. A., Kreiser, P. O., & Roghaar, L. A. (1994). Question-asking comfort: Explorations of the demography of communication in the eighth grade classroom. *Communication Education*, *43*, 27–41.

Dancer, D., & Kamvounias, P. (2005). Student involvement in assessment: A project designed to assess class participation fairly and reliably. *Assessment & Evaluation in Higher Education*, *30*, 445–454.

Dillon, J. T. (1982). Male–female similarities in class participation. *Journal of Educational Research*, *75*, 350–353.

Dunleavy, K. N. (2006). The effect of instructor humor on perceived instructor credibility, student state motivation, and student motives to communicate in the classroom. *The Kentucky Journal of Communication*, *25*, 39–56.

Ellis, K. (2000). Perceived teacher confirmation: The development and validation of an instrument and two studies of the relationship to cognitive and affective learning. *Human Communication Research*, *26*, 264–291.

Ellis, K. (2002). Perceived parental confirmation: Development and validation of an instrument. *Southern Communication Journal*, *67*, 319–334.

Ellis, K. (2004). The impact of perceived teacher confirmation on receiver apprehension, motivation, and learning. *Communication Education*, *53*, 1–20.

Fassinger, P. A. (1995a). Professors' and students' perceptions of why students participate in class. *Teaching Sociology*, *24*, 25–33.

Fassinger, P. A. (1995b). Understanding classroom interaction: Students' and professors' contributions to students' silence. *Journal of Higher Education*, *66*, 82–96.

Fassinger, P. A. (2000). How classes influence students' participation in college classrooms. *Journal of Classroom Interaction*, *35*, 38–47.

Feldmann, L. J. (2001). Classroom civility is another of our instructor responsibilities. *College Teaching*, *49*, 137–140.

Fritschner, L. M. (2000). Inside the undergraduate college classroom: Faculty and students differ on the meaning of student participation. *The Journal of Higher Education*, *71*, 342–362.

Frymier, A. B. (2005). Students' classroom communication effectiveness. *Communication Quarterly, 53*, 197–212.

Frymier, A. B., & Houser, M. L. (1998, April). *Using communication skills in teaching and their comparison to immediacy.* Paper presented at the annual meeting of the Eastern Communication Association, Saratoga Springs, NY.

Frymier, A. B., & Houser, M. L. (1999). The revised learning indicators scale. *Communication Studies, 50*, 1–12.

Frymier, A. B., & Houser, M. L. (2000). The teacher–student relationship as an interpersonal relationship. *Communication Education, 49*, 207–219.

Goodboy, A. K., & Martin, M. M. (2005, April). *Student motives for communicating with their instructors: A validity study.* Paper presented at the annual meeting of the Eastern Communication Association, Pittsburgh, PA.

Goodboy, A. K., & Martin, M. M. (2007, April). *Validating the SCSS: Examining attributional confidence, affective learning, and student communication motives.* Paper presented at the annual meeting of the Eastern Communication Association, Providence, RI.

Howard, J. R., & Henney, A. L. (1998). Student participation and instructor gender in the mixed-age college classroom. *The Journal of Higher Education, 69*, 384–405.

Howard, J. R., Short, L. B., & Clark, S. M. (1996). Students' participation in the mixed-age college classroom. *Teaching Sociology, 24*, 8–24.

Jones, R., & Simonds, C. (1994, April). *Challenge behavior in the college classroom: What, when, and how often?* Paper presented at the annual meeting of the Central States Communication Association, Oklahoma City, OK.

Junn, E. (1994). Pearls of wisdom: Enhancing student class participation with an innovative exercise. *Journal of Instructional Psychology, 21*, 385–387.

Karp, D. A., & Yoels, W. C. (1976). The college classroom: Some observations on the meanings of student participation. *Sociology and Social Research, 60*, 421–439.

Kearney, P., Plax, T. G., Sorensen, G., & Smith, V. R. (1988). Experienced and prospective teachers' selections of compliance-gaining messages for "common" student misbehaviors. *Communication Education, 37*, 150–164.

Kelley, D. H., & Gorham, J. (1988). Effects of immediacy on recall of information. *Communication Education, 37*, 198–207.

Kramer, M. W., & Pier, P. M. (1999). Students' perceptions of effective and ineffective communication by college teachers. *Southern Communication Journal, 65*, 16–33.

Krathwohl, D. R., Bloom, B. S., & Masia, B. B. (1964). *Taxonomy of education objectives: The classification of educational goals. Handbook 2: Affective domain.* New York: McKay.

Laing, R. D. (1961). *The self and others.* New York: Pantheon.

Martin, M. M., Cayanus, J. L., Weber, K. D., & Goodboy, A. K. (2006). College students' stress and its impact on their motivation and communication with their instructors. In M. V. Landow (Ed.), *Stress and mental health of college students* (pp. 149–169). Hauppauge, NY: Nova Science.

Martin, M. M., Heisel, A. D., & Valencic, K. M. (2000, April). *Students' motives for communicating with their instructors IV: Considering instructors' use of BATs.* Paper presented at the annual meeting of the Eastern Communication Association, Pittsburgh, PA.

Martin, M. M., Mottet, T. P., & Myers, S. A. (2000). Students' motives for communicating with their instructors and affective and cognitive learning. *Psychological Reports, 87*, 830–834.

Martin, M. M., Mottet, T. P., & Myers, S. A. (2005, April). *The relationship between college students' emotional responses and their motives for communicating with their instructors.* Paper presented at the annual meeting of the Eastern Communication Association, Pittsburgh, PA.

Martin, M. M., Myers, S. A., & Mottet, T. P. (1999). Students' motives for communicating with their instructors. *Communication Education, 48*, 155–164.

Martin, M. M., Myers, S. A., & Mottet, T. P. (2006). Students' Machiavellianism and motives for communicating with instructors. *Psychological Reports, 98*, 861–864.

Martin, M. M., Valencic, K. M., & Heisel, A. D. (2001, April). *The relationship between students' motives for communicating with their instructors and perceptions of instructor nonverbal immediacy.* Paper presented at the annual meeting of the Eastern Communication Association, Portland, ME.

Martin, M. M., Valencic, K. M., & Heisel, A. D. (2002). The relationship between students' communication apprehension and their motives for communicating with their instructors. *Communication Research Reports*, *19*, 1–7.

McCroskey, J. C., Richmond, V. P., & Bennett, V. E. (2006). The relationships of student end-of-class motivation with teacher communication behaviors and instructional outcomes. *Communication Education*, *55*, 403–414.

McCroskey, J. C., Richmond, V. P., Plax, T. G., & Kearney, P. (1985). Power in the classroom V: Behavior alteration techniques, communication training and learning. *Communication Education*, *34*, 214–226.

Menzel, K. E., & Carrell, L. J. (1999). The impact of gender and immediacy on willingness to talk and perceived learning. *Communication Education*, *48*, 31–40.

Mottet, T. P., Martin, M. M., & Myers, S. A. (2004). Relationships among perceived instructor verbal approach and avoidance relational strategies and students' motives for communicating with their instructors. *Communication Education*, *53*, 116–122.

Mottet, T. P., Parker-Raley, J., Beebe, S. A., & Cunningham, C. (2007). Instructors who resist "college lite": The neutralizing effect of instructor immediacy on students' course-workload violations and perceptions of instructor credibility and affective learning. *Communication Education*, *56*, 145–167.

Myers, S. A. (1999). The relationship between college student challenge behavior and instructor power. *Speech and Theatre Association of Missouri Journal*, *28*, 8–17.

Myers, S. A. (2002). Perceived aggressive instructor communication and student state motivation, learning, and satisfaction. *Communication Reports*, *15*, 113–121.

Myers, S. A. (2004). The relationship between perceived instructor credibility and college student in-class and out-of-class communication. *Communication Reports*, *17*, 129–137.

Myers, S. A. (2006). Using leader–member exchange theory to explain students' motives to communicate. *Communication Quarterly*, *54*, 293–304.

Myers, S. A., & Bryant, L. E. (2002). Perceived understanding, interaction involvement and college student outcomes. *Communication Research Reports*, *19*, 146–155.

Myers, S. A., & Bryant, L. E. (2005). The relationship between students' motives to communicate and perceived instructor functional communication skills. *Journal of the Speech and Theatre Association of Missouri*, *35*, 47–62.

Myers, S. A., & Knox, R. L. (2001). The relationship between college student information-seeking behaviors and perceived instructor verbal behaviors. *Communication Education*, *50*, 343–356.

Myers, S. A., Martin, M. M., & Mottet, T. P. (2002a). Students' motives for communicating with their instructors: Considering instructor socio-communicative style, student socio-communicative orientations, and student gender. *Communication Education*, *51*, 121–133.

Myers, S. A., Martin, M. M., & Mottet, T. P. (2002b). The relationship between students' communication motives and information seeking. *Communication Research Reports*, *19*, 352–361.

Myers, S. A., Mottet, T. P., & Martin, M. M. (2000). Students' motives for communicating with their instructors: The relationship between student communication motives and perceived instructor style. *Communication Research Reports*, *17*, 161–170.

Myers, S. A., & Rocca, K. A. (2001). Perceived instructor argumentativeness and verbal aggressiveness in the college classroom: Effects on student perceptions of climate, apprehension, and state motivation. *Western Journal of Communication*, *65*, 113–137.

Myers, S. A., Rocca, K. A., Dunleavy, K. N., Hanselman, M., Ike, I., Kubic, K. et al. (2005, April). *The relationship between college student class participation and perceived instructor communicator*

style. Paper presented at the annual meeting of the Eastern Communication Association, Pittsburgh, PA.

Myers, S. A., & Zhong, M. (2004). Perceived Chinese instructor use of affinity-seeking strategies and Chinese college student motivation. *Journal of Intercultural Communication Research*, *33*, 119–130.

Natvig, G. K., Albrektsen, G., & Qvarnstrom, U. (2003). Methods of teaching and class participation in relation to perceived social support and stress: Modifiable factors for improving health and wellbeing among students. *Educational Psychology*, *23*, 261–274.

Neer, M. R., & Kircher, W. F. (1989). Apprehensives' perception of classroom factors influencing their class participation. *Communication Research Reports*, *6*, 70–77.

Nussbaum, J. F. (1992). Effective teaching behaviors. *Communication Education*, *41*, 167–180.

Palardy, M. J. (1995). Dealing with misbehavior: Two approaches. *Journal of Instructional Psychology*, *22*, 135–140.

Pearson, J. C., & West, R. (1991). An initial investigation of the effects of gender on student questions in the classroom: Developing a descriptive base. *Communication Education*, *40*, 22–32.

Petress, K. (2006). An operational definition of class participation. *College Student Journal*, *40*, 821–823.

Reinsch, R., & Wambsganss, J. R. (1994). Class participation: How it affects results on examinations. *Journal of Education for Business*, *70*, 33–37.

Richmond, V. P. (1990). Communication in the classroom: Power and motivation. *Communication Education*, *39*, 181–195.

Richmond, V. P., Gorham, J. S., & McCroskey, J. C. (1987). The relationship between selected immediacy behaviors and cognitive learning. In M. McLaughlin (Ed.), *Communication yearbook*, vol. 10 (pp. 574–590). Beverly Hills, CA: Sage.

Rosenfeld, L. B., & Jarrard, M. W. (1985). The effects of perceived sexism among female and male college professors on students' descriptions of classroom climate. *Communication Education*, *34*, 205–213.

Rubin, R. B., Perse, E. M., & Barbato, C. A. (1988). Conceptualization and measurement of interpersonal communication motives. *Human Communication Research*, *14*, 602–628.

Schrodt, P., Ledbetter, A. M., & Ohrt, J. K. (2007). Parental confirmation and affection as mediators of family communication patterns and children's mental well-being. *Journal of Family Communication*, *7*, 23–46.

Schrodt, P., Turman, P. D., & Soliz, J. (2006). Perceived understanding as a mediator of perceived teacher confirmation and students' ratings of instruction. *Communication Education*, *55*, 370–388.

Sieburg, E. (1985). *Family communication: An integrated systems approach*. New York: Gardner Press.

Simonds, C. J. (1997). Challenge behavior in the college classroom. *Communication Research Reports*, *14*, 481–492.

Simonds, C. J. (1998, April). *Being perfectly clear: An examination of the relationship between teacher clarity and student challenges in the college classroom*. Paper presented at the annual meeting of the Central States Communication Association, Chicago.

Simonds, C. J., Jones, R., & Bedore, J. (1994, November). *What will happen if: Challenge behavior in the college classroom*. Paper presented at the annual meeting of the Speech Communication Association, New Orleans, LA.

Smith, S. W., Kopfman, J. E., & Ahyun, J. (1996). Encouraging feedback in the large college class: The use of a question/comment box. *Journal of the Association for Communication Administration*, *3*, 219–230.

Sykes, C. J. (1995). *Dumbing down our kids: Why America's children feel good about themselves but can't read, write, or add*. New York: St. Martin's Press.

Teven, J. J., & Gorham, J. (1998). A qualitative analysis of low-inference student perceptions of teacher caring and non-caring behaviors in the college classroom. *Communication Research Reports*, *15*, 288–298.

Teven, J. J., & Hanson, T. L. (2004). The impact of teacher immediacy and perceived caring on teacher competence and trustworthiness. *Communication Quarterly*, *52*, 39–53.

Teven, J. J., & McCroskey, J. C. (1997). The relationship of perceived teacher caring with student learning and teacher evaluation. *Communication Education*, *46*, 1–9.

Tiberius, R. G., & Flak, E. (1999). Incivility in dyadic teaching and learning. *New Directions for Teaching and Learning*, *77*, 3–12.

Titsworth, B. S. (2004). Students' notetaking: The effects of teacher immediacy and clarity. *Communication Education*, *53*, 305–320.

Turman, P. D., & Schrodt, P. (2006). Student perceptions of teacher power as a function of perceived teacher confirmation. *Communication Education*, *55*, 265–279.

Voelkl, K. E. (1995). School warmth, student participation, and achievement. *Journal of Experimental Education*, *63*, 127–138.

Waldeck, J. H., Kearney, P., & Plax, T. G. (2001). Instructional and developmental communication theory and research in the 1990s: Extending the agenda for the 21st century. In W. B. Gudykunst (Ed.), *Communication Yearbook 24* (pp. 207–230). Thousand Oaks, CA: Sage.

Watzlawick, P., Beavin, J., & Jackson, D. D. (1967). *Pragmatics of human communication: A study of interactional patterns, pathologies, and paradoxes*. New York: Norton.

Weaver, R. R., & Qi, J. (2005). Classroom organization and participation: College students' perceptions. *The Journal of Higher Education*, *76*, 570–601.

Weber, K. D., Martin, M. M., & Cayanus, J. L. (2005). Student interest: A two-study re-examination of the concept. *Communication Quarterly*, *53*, 71–86.

Weger, H., Jr. (2005). Disconfirming communication and self-verification in marriage: Associations among the demand/withdrawal interaction pattern, feeling understood, and marital satisfaction. *Journal of Social and Personal Relationships*, *22*, 19–31.

Weiss, S. D., & Houser, M. L. (2007). Student communication motives and interpersonal attraction toward instructor. *Communication Research Reports*, *24*, 215–224.

West, R., & Pearson, J. C. (1994). Antecedent and consequent conditions of student questioning: An analysis of classroom discourse across the university. *Communication Education*, *43*, 299–311.

Williams, R. L. (1971). Relationship of class participation to personality, ability, and achievement variables. *The Journal of Social Psychology*, *83*, 193–198.

Yoakley, D. H. (1975). A study of student participation in classroom management to effect an increase in appropriate behavior. *Journal of Educational Research*, *69*, 31–35.

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